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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,670	12/29/2006	Hui Chen	1454.1716	8871

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EXAMINER	
DEAN, JR, JOSEPH E	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/577,670	CHEN ET AL.	
	Examiner	Art Unit	
	JOSEPH DEAN, JR	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 January 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/11/2011 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 21 and 22 are rejected under 35 U.S.C. 102(a) as being anticipated by Cromer et al. (US20030156558) (hereinafter Cromer).

Per claim 21, Cromer discloses a first radio station for a radio the radio communication system formed of a radio access point and at least one second radio station in addition to the first radio station, the first radio station comprising: means for storing a path between said first radio station and the radio access point (paragraph 0064), where the path is formed of at least one of the second radio stations and is used for transferring information from said first radio station

to the radio access point and from the radio access point to said first radio station via the path (paragraphs 0058 and 0064); means for sending test data for the radio access point to determine whether a failure of the path exists (paragraphs 0076 and 0077); means for receiving and processing failure information about presence of a failure of the stored path (paragraph 0064,0077, **i.e. mobile unit has processor which processes information as well as RAM and ROM functions**), said storing of the path being prior to the processing failure information (paragraph 0077, **i.e. paths are stored within data structure if no paths are available, start to build new path structures, examiner does not see by adding this amendment where the claim is distinguished over the prior art**); and means for initiating a method to determine a new path between said first radio station and the radio access point following reception of the failure information (paragraph 0077, Fig 5, **i.e. method of switching to previously stored path, when no path stored, system starts to search for new path by building data structures until AP is in range, therefore options are given to determine or initiate a method to determine path if failure occurs. (Also refer to claim 7 of the reference**).

Per claim 22, refer to same rationale as explained in claim 21.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

> be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 12, 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cromer et al. (US20030156558) (hereinafter Cromer) and Larsen (US20010036810).

Per claim 12, Cromer discloses a method for operating a radio communication system with a radio access point and a plurality of radio stations including a terminal radio station located outside of direct radio transmission range of the radio access point (paragraph 0021), said method comprising: but fail to explicitly disclose providing, path information about a path formed of at least one further radio station of the plurality of radio stations usable for a message transfer between the radio access point and the terminal radio station, to the radio access point responsive to a requirement from the radio access point prior to the message transfer; learning, at the terminal radio station, about the requirement for the path information that was initiated at the radio access point; and initiating at the terminal radio station a method for determining a path between the terminal radio station and the radio access point to fulfill the requirement initiated by the radio access point.

However, Larsen discloses providing, path information about a path formed of at least one further radio station of the plurality of radio stations usable for a message transfer between the radio access point and the terminal radio station, to the radio access point responsive to a requirement from the radio

access point prior to the message transfer (paragraph 0171-0179, Fig 4); learning, at the terminal radio station (i.e. MSa), about the requirement for the path information that was initiated at the radio access point (paragraph 0183-0185, **i.e. after consulting it's gradient table**); and initiating at the terminal radio station a method for determining a path between the terminal radio station(i.e. MSa) and the radio access point to fulfill the requirement initiated by the radio access point (paragraph 0183-0185 and 0188-0190, **i.e. initiating a path from MSa to MSb**)

Therefore, one skilled in the art would have found it obvious from the combined teachings of Cromer which provides packet transfer between mobile unit outside AP range and Larsen provides relaying data between mobile stations and base stations by utilizing probe data to gather information of best routes for accessibility as a whole to produce the invention as claimed with a reasonable expectation of determining best route to the base station by reviewing gradient table.

Per claim 13, the combination discloses the method as claimed in claim 12,Cromer discloses wherein the radio communication system includes a base station located inside the direct radio transmission range of the radio access point and the terminal radio station is located within a radio coverage area of the base station (paragraph 0021, 0057 and 0058, Fig 3), Larsen discloses wherein said method further comprises notifying the base station (i.e. RNC) by the radio access point (i.e. base station) about the requirement for the path information (paragraph 0166), and wherein said learning by the terminal radio station about

the requirement for the path information is a result of a notification by the base station (paragraph 0166, **i.e. ID2 and ID1 set aside relaying resources, which is reserved for ID3, which is learned by MSa**).

Therefore, one skilled in the art would have found it obvious from the combined teachings of Cromer and Larsen as a whole to produce the invention as claimed with a reasonable expectation of learning by MSa about best path to the base station.

Per claim 20, refer to same rationale as explained in claim 12 (multiple nodes can broadcast information as well as listen for notifications when terminal is turned on).

6. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cromer and Larsen as applied to claim12 above, and further in view of Raji (US20040219878).

Per claim 14, The combination discloses the method as claimed in claim 12, Cromer discloses wherein a known path between the terminal radio station and the radio access point formed of at least one further radio station is known to the terminal radio station and the radio access point (paragraph 0058), enabling data to be transferred from the terminal radio station to the radio access point and from the radio access point to the terminal radio station via the path (paragraph 0032-0039 and 0058) wherein said method further comprises receiving, at the radio access point, failure information about failure of the known path from a radio station of the path (paragraph 0058); initiating, at the terminal

radio station, a method for determining a new path between the terminal radio station and the radio access point (paragraph 0058) but fails to discloses learning at the terminal radio station about the failure of the known path after the radio access point leans about the failure.

However, Raji discloses learning at the terminal radio station about the failure of the known path after the radio access point learns about the failure (paragraph 0073).

Therefore, one skilled in the art would have found it obvious from the combined teachings of Cromer, Larsen and **Raji**, which provides knowledge of dropped and created paths via source/intermediate nodes, as a whole to produce the invention as claimed with a reasonable expectation of achieving process of dropping and developing new paths for continued communication.

Per claim 15, the combination discloses the method as claimed in claim 14, wherein Cromer discloses said learning about the failure of the known path at the radio access point results from information received in response to sending data from the radio access point to the terminal radio station (paragraph 0077).

Per claim 16, the combination discloses the method as claimed in claim 15, wherein Cromer discloses said method further comprises sending test data for the radio access point from the terminal radio station to determine whether the failure exists in the known path (paragraph 0077, **i.e. next path stored within the first data structure is attempted to correct problem**).

Per claim 17, the combination discloses the method as claimed in claim 16, wherein Cromer discloses said sending of the test data takes place at regular time intervals (paragraphs 0078-0080 and 0090).

Per claim 18, the combination discloses the method as claimed in claim 16, wherein Cromer said learning about the failure of the known path at the terminal radio station results from said sending of the test data to determine whether the failure exists in the known path (paragraph 0077).

Per claim 19, the combination discloses the method as claimed in claim 18, wherein Cromer discloses said sending of the test data by the terminal radio station to determine whether the failure exists in the known path results from at least one notification sent as a result of a preceding determination of the known path (paragraph 0113).

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH DEAN, JR whose telephone number is (571)270-7116. The examiner can normally be reached on Monday through Friday 7:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bost Dwayne can be reached on 571-272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOSEPH DEAN, JR/
Examiner, Art Unit 2617

/Nghi H. Ly/
Primary Examiner, Art Unit 2617